

Dafydd Griffiths

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## PETROGRAPHIC ANALYSIS ON POTTERY FROM TOMB IV AT TELL EL RACHIDIEH

*Samples from one jug and two jars from the Iron Age site of Tell el-Rachidieh south of Tyre were subjected to petrographic analysis to learn something of the fabrics being used to make the pottery recovered from the site. In due course this information may contribute to identifying the manufacturing locations of the pottery and thereby to building a fuller picture of the movement of goods and cultural contacts in Phoenician times.*

The samples studied came from a broken Phoenician bichrome jug labelled 15 and two jars labelled 16 and 17, also partially broken. Their broken state enabled samples to be taken for analysis. The fabric of jar 16 appeared fairly dark orange to the naked eye, particularly in cross section, while jug 15 appeared a rather paler orange. Jug 15 and jar 16 were considered to be of the Phoenician bichrome/monochrome type. Jar 17 was considered to be a jar of Cypriot type based on its general style but looked on the basis of its bichrome decoration as though it might be locally produced.

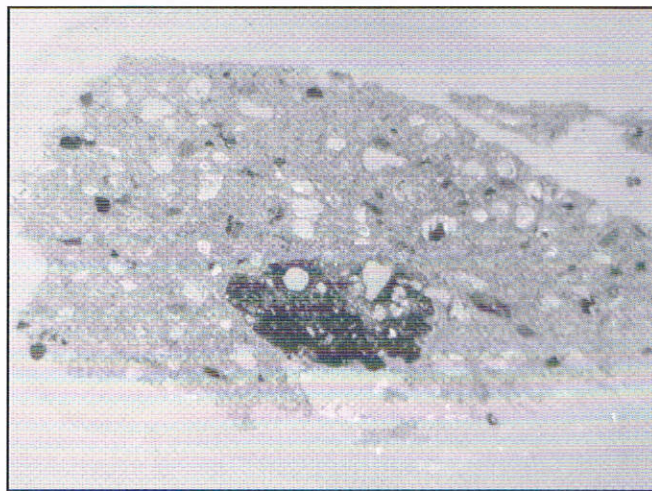
The study of small thin sections of these samples throws further light on the fabrics although the sections are not extensive enough to allow a quantitative assessment of their constitution.

### JUG 15

The fabric of jug 15 appears quite distinctive. The section is small, only around 9x4 mm (see figure 1). The fine grained groundmass is calcareous and contains fairly numerous microfossils including foraminifera which generally appear to be of a fairly coarsely recrystallized calcite. The central feature of the section is a large (2.7x1.4 mm) iron rich clay pellet with rather ragged edges containing both quartz and calcareous inclusions, as well as subsidiary clay pellets, one of which appears to have been lost during sample preparation to leave a circular void. There are also numerous smaller iron-rich clay pellets (some with diffuse margins) and opaques (the latter probably haematite from

the red-brown hue) in the fabric. In addition to these, there are a number of grains of minerals including plagioclase and microcline feldspars, olivine and biotite as well as a number of small unidentified mineral and rock fragments. There are some small quartz grains in the fabric and what is probably a grain of metamorphic quartzite with undulose extinction and iron rich inclusions

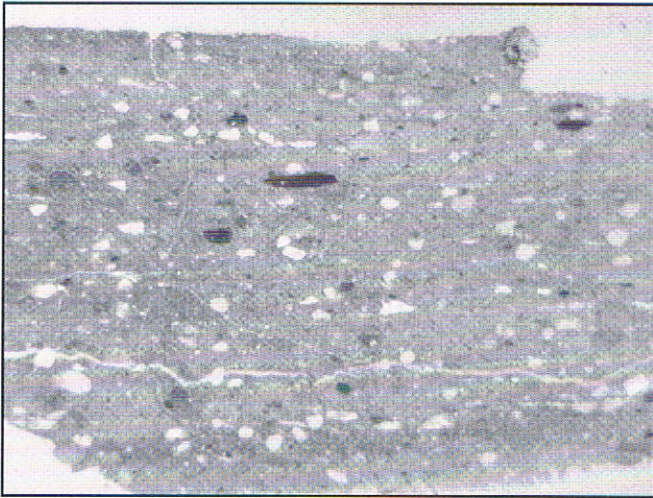
1. Thin section of Rachidieh jug 15, a Phoenician type. The field of view is 9mm wide.



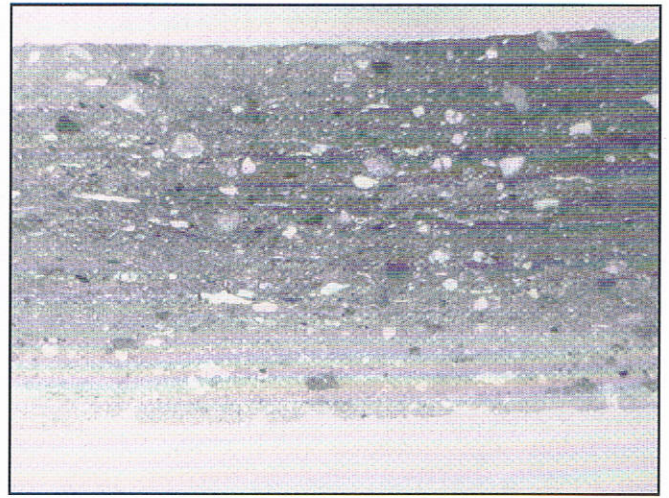
### JAR 16

This section shows a mottled orange fabric with many iron-rich clay pellets, some with diffuse margins and a number clearly distorted during the vessel formation process. There are quite a few small foraminifera in the fabric, which also has a number of elongate voids. There are frequent fragments of coralline algae 0.1-0.5mm in diameter, some of these appearing rather cloudy grey in their structure. There are also slightly less frequent fragments (0.1-0.5mm diameter) of what appears to be a fine-grained limestone. There are fairly frequent quartz grains, possibly with a bi-modal size distribution with a larger fraction around 0.1-0.3mm diameter ranging from angular to sub-rounded in shape and a much finer fraction. Most of the larger quartz grains are monocrystalline and show uniform extinction but one grain in the section is polycrystalline and shows strained extinction.

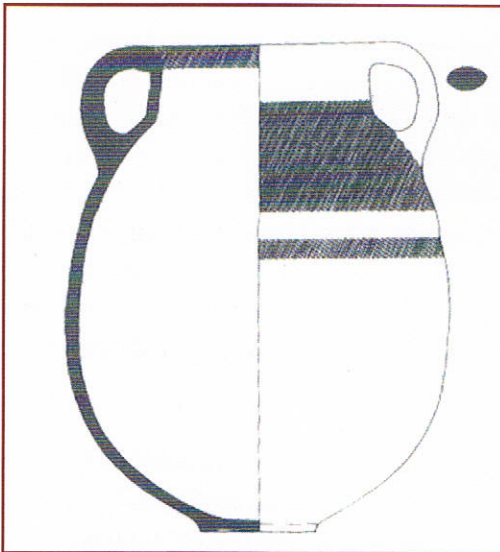




2 Thin section of Rachidieh jar 16. The field of view is 9mm wide.



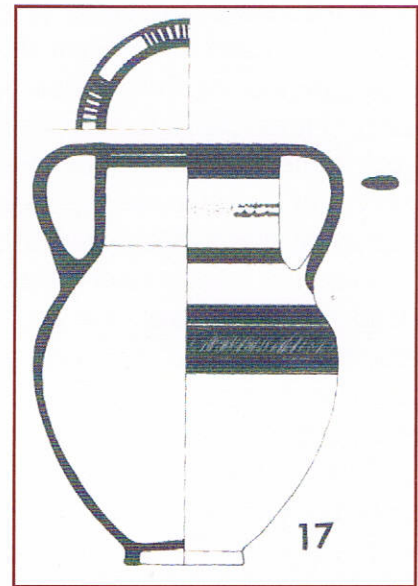
3 Thin section of Rachidieh jar 17. The field of view is 9mm wide.



Jar 16. A Phoenician monochrome type.

### JAR 17

The fabric of this jar is very similar to that of jar 16. There does seem to be slightly less quartz in the fabric of jar 17 but given the limited sample size they seem sufficiently similar to have been made of the same raw material. There are several exact parallels between the fabrics such as the presence in each of multi-chambered foraminifera within very similar iron-rich clay pellets.



Jar 17. A Phoenician replicate of a Cypriote model.

### CONCLUSIONS BASED ON PETROGRAPHIC OBSERVATION

Conclusions to be drawn from this small sample are of course limited. The fabrics of jars 16 and 17 are very similar and they could have been made of the same raw material. The raw material may have been a composite blend of clays as the fabric of jar 17 shows some streaking where components are imperfectly homogenized. Imperfect homogenization of raw materials may also account for the possible difference in apparent density of the quartz between the two sections. The fabric of jug 15 is very different and, although the matrix is still calcareous, it contains different and distinctive inclusions suggestive of a more complex geological origin.